

CLAIMS

What is claimed is:

- 1 1. A distributed stack of programmable network devices, the distributed
2 stack comprising:
3 a first plurality of programmable network devices, the first plurality of
4 programmable network devices in communication via a first bus,
5 such that the first plurality of programmable network devices
6 includes a first plurality of modules, the first plurality of modules
7 performing a first plurality of network protocols;
8 a second plurality of programmable network devices, the second
9 plurality of programmable network devices in communication via a
10 second bus, such that the second plurality of programmable network
11 devices includes a second plurality of modules, the second plurality
12 of modules performing a second plurality of network protocols;
13 wherein the first bus and the second bus are coupled via the Internet.
- 1 2. The distributed stack of claim 1, wherein the first plurality of network
2 protocols includes a first application protocol.
- 1 3. The distributed stack of claim 2, wherein the first plurality of network
2 protocols includes a first network management protocol.

1 12. A programmable network device, wherein the programmable network
2 device couples a first computer network to a second computer network, the
3 programmable network device comprising:
4 two or more software modules, the software modules encoded in a first
5 language, the two or more modules including
6 a first module, wherein the first module executes an application
7 service on packets routed between the first network and the second
8 network
9 a second module, wherein the second module executes a network
10 management service on packets routed between the first network and
11 the second network;
12 a real-time operating system, wherein the two or more software modules
13 are executed on the real-time operating system;
14 wherein the programmable network device has a minimum line rate of 1
15 gigabit per second.

1 13. The programmable network device of claim 12, wherein the application
2 service is one of the group consisting of an MPLS protocol, an IP Sec protocol,
3 an L2TP protocol, and a firewall.

1 14. The programmable network device of claim 13, wherein the network
2 management service is one of the group consisting of an SLA function, an
3 SNMP protocol, and a CMIP protocol.

1 18. The method of claim 17, wherein the first function is one of the group
2 consisting of an MPLS protocol, an IP Sec protocol, an L2TP protocol, and a
3 firewall.

1 19. The method of claim 18, wherein the second function is one of the group
2 consisting of an SLA function, an SNMP protocol, and a CMIP protocol.

1 20. The method of claim 18, wherein the second function is an XML
2 interpreter.

1 21. The method of claim 18, wherein the second function is a CORBA
2 Object Request Broker.